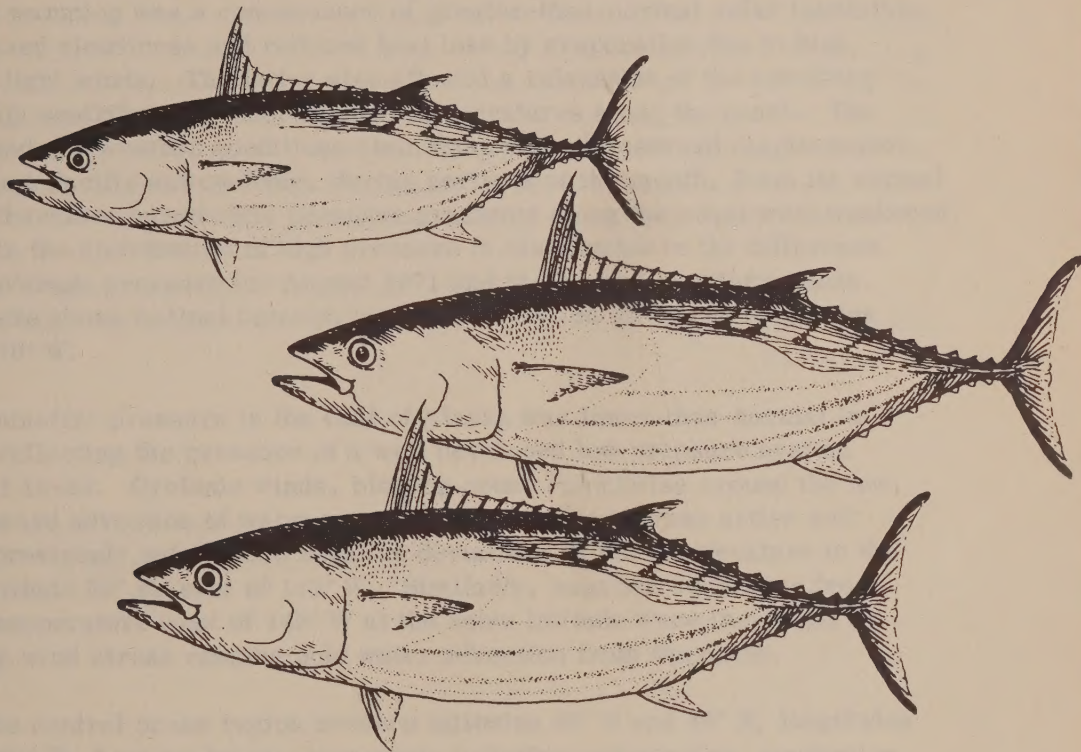




AUGUST 1971

FISHING INFORMATION

UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION



NATIONAL
MARINE
FISHERIES
SERVICE

FISHERY-
GEOGRAPHY
CENTER
LA JOLLA,
CALIFORNIA

Contents

	Page
Narrative Description of Ocean Temperature Conditions	1
Sea Surface Temperature Charts, Pacific Ocean, August 1971	3

NARRATIVE DESCRIPTION OF OCEAN TEMPERATURE CONDITIONS

Northeastern Pacific

Coastal waters in most sections from Vancouver Island to Baja California warmed rapidly during the first half of August 1971, causing a reversal of temperature conditions in these areas from below normal in July to above normal in August. The warming was a consequence of greater-than-normal solar insolation due to decreased cloudiness and reduced heat loss by evaporation due to high humidity and light winds. The latter also allowed a relaxation of the upwelling which normally contributes to cool surface temperatures along the coast. The anomalous wind and weather conditions stem from a northwestward displacement of the northeast Pacific anticyclonic, during portions of the month, from its normal location and therefore barometric pressure gradients along the coast were weakened. The shifting in the distribution of high pressure is discernible in the difference between the average pressure for August 1971 and the August long term mean. Pressures were above normal between latitudes 35° N and 50° N and longitudes 155° W and 170° W.

Barometric pressure in the Gulf of Alaska was lower-than-normal in August 1971 reflecting the presence of a well developed low pressure system during August 18-24. Cyclonic winds, blowing counterclockwise around the low, caused northward advection of warm water through surface stress action and reduced the previously established negative deviations of sea temperature in the vicinity of latitude 55° N, east of 145° W. Similarly, negative deviations from normal sea temperature west of 145° W at the same latitude were increased or maintained by wind stress causing cold water advection from the north.

In the central ocean region between latitudes 35° N and 40° N, longitudes 140° W and 160° W, heat exchange components including evaporation, conduction and insolation acted in concert with wind induced advection to retard seasonal warming and reduce sea temperatures, relative to normal. West of 160° W, the pattern of anomalous heat exchange processes other than advection, computed from observed properties averaged over the month, do not correspond to all of the anomalous temperature changes from July to August. Reference to daily barometric pressure charts prepared by the Fleet Numerical Weather Central suggests, however, that sea temperature changes owing to anomalous wind stress associated with transient circulation systems could have caused the increased warming northwest of Hawaii to 30° N, and the reduced warming near 35° N, between longitudes 160° W and 165° W.

Eastern Tropical Pacific

Sea surface temperatures rose in August 1971 along most of the equatorial upwelling zone to the west of longitude 110° W, but continued to be below normal between 110° W and 140° W (Figs. 5 and 6). The increased temperatures caused this zone to be much warmer than in August of the previous year (Fig. 7). In contrast, temperatures between the Galapagos Islands and the South American coast dropped in August 1971, suggesting an intensification of the Peru Current.

Central American coastal waters continued to be up to 2° F above normal temperature. In the open sea to the west, a southward shift of the southern edge of the warm water (more than 80° F) caused positive departures from normal along latitude 5° N (Fig. 5). Temperatures fell in the region to the north between 100° W and 130° W along latitude 10° N, resulting in negative departures from normal in August. The latter may have resulted from wind mixing of surface water with colder subsurface water and increased cloudiness associated with tropical storm activity which carried on from July through the first part of August.

Colder than normal conditions prevailed along latitude 10° N and in the adjacent region to the north, with negative deviations about the same or less than those in July.

Staff, Fishery-Oceanography Group
R. Michael Laurs, Leader

SEA SURFACE TEMPERATURE CHARTS, PACIFIC OCEAN

AUGUST 1971

Acknowledgements

The following organizations and stations contributed data for the August charts:

Global Marine Inc.; GLOMAR CHALLENGER

Hopkins Marine Station, Pacific Grove, California, J. P. Balesteri

Inter-American Geodetic Survey by L. Peren at Puerto Armuelles,

Panama; S. Leiva at Talara, Peru

Kelco Company, San Diego, California

Living Marine Resources Inc., San Diego, California

National Oceanic and Atmospheric Administration

National Marine Fisheries Service, Biological Laboratories

La Jolla, California; Honolulu, Hawaii; Seattle, Washington

National Weather Service, San Diego, California

National Ocean Survey, Pacific Marine Center, Seattle, Washington

Oregon State University, Department of Oceanography, Corvallis, Oregon

Pacific Environment Institute, Fisheries Research Board of Canada,

West Vancouver, British Columbia, by H. J. Hollister from

observations; D. Smith at Langara Island; D. C. Robinson at

Cape St. James Light; Lilly Collins at Kains Island Lightstation;

O. A. Edwards at Amphitrite Point Light

Scripps Institution of Oceanography, La Jolla, California, by Margaret Robinson

Scripps Institution of Oceanography Research Vessel MELVILLE,
THOMAS WASHINGTON, ALEXANDER AGASSIZ

University of Washington, Seattle, Washington; R/V THOMAS THOMPSON

U.S. Naval Weather Service, Fleet Numerical Weather Central, Monterey,
California

Fishing Vessels ANTONINA C, AQUARIUS, CAROL VIRGINIA, CONQUEST,
EASTERN PACIFIC, ELSINORE, KATHLEEN, KERRI M, LOU JEAN II,
MARIE ANTIONETTE, MARY BARBARA, MERMAID, SEA QUEST,
TYPHOON

Charts

Figure 1. --Mean sea surface temperature, eastern north Pacific Ocean. Squares show temperatures at weather ship stations. Numerals on shore are temperatures at coastal and lightship stations.

Figure 2. --Mean sea surface temperature chart, western north Pacific Ocean.

Figure 3. --Deviation of sea surface temperatures, eastern north Pacific Ocean from long term charts of H. O. 225. Hatched areas are colder in 1971.

Figure 4. --Deviation of sea surface temperatures, eastern north Pacific Ocean from those of August 1970. Hatched areas are colder in 1971.

Figure 5. --Mean sea surface temperature, eastern tropical Pacific Ocean. Numerals on shore are temperatures at coastal stations.

Figure 6. --Deviation of sea surface temperatures, eastern tropical Pacific Ocean from long-term charts of H. O. 225 and NAVOCEANO sp-123. Shaded areas are colder in 1971.

Figure 7. --Deviation of sea surface temperatures, eastern tropical Pacific Ocean from those of August 1970. Shaded areas are colder in 1971.

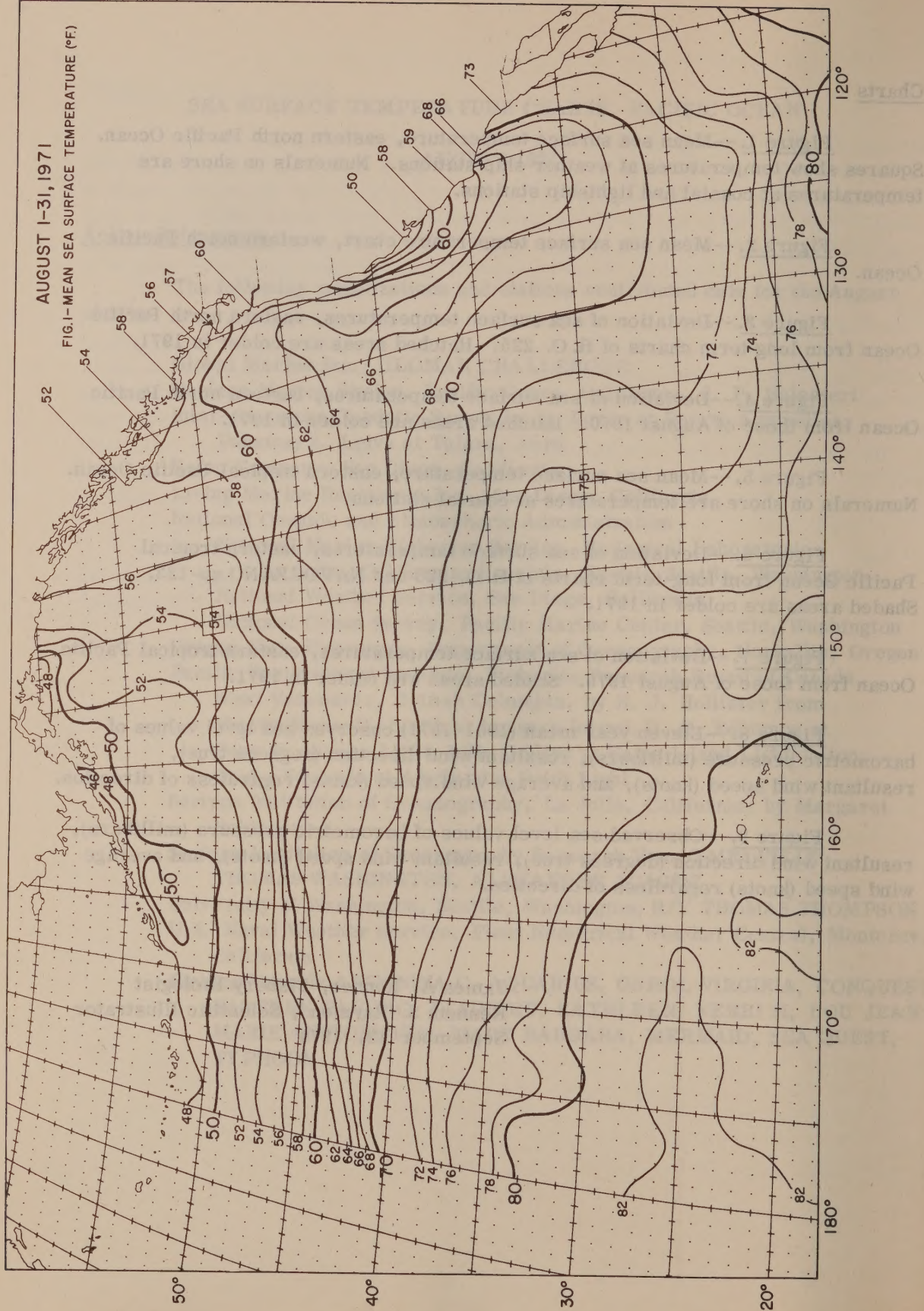
Figure 8. --Eleven year mean (1961-1971) observed sea level values of barometric pressure (millibars), resultant wind direction (degrees true), resultant wind speed (knots), and average wind speed (knots) regardless of direction.

Figure 9. --Observed sea level values of barometric pressure (millibars), resultant wind direction (degrees true), resultant wind speed (knots), and average wind speed (knots) regardless of direction.

James A. Renner, Fishery Biologist
Kenneth S. Raymond, Scientific Illustrator
September 13, 1971

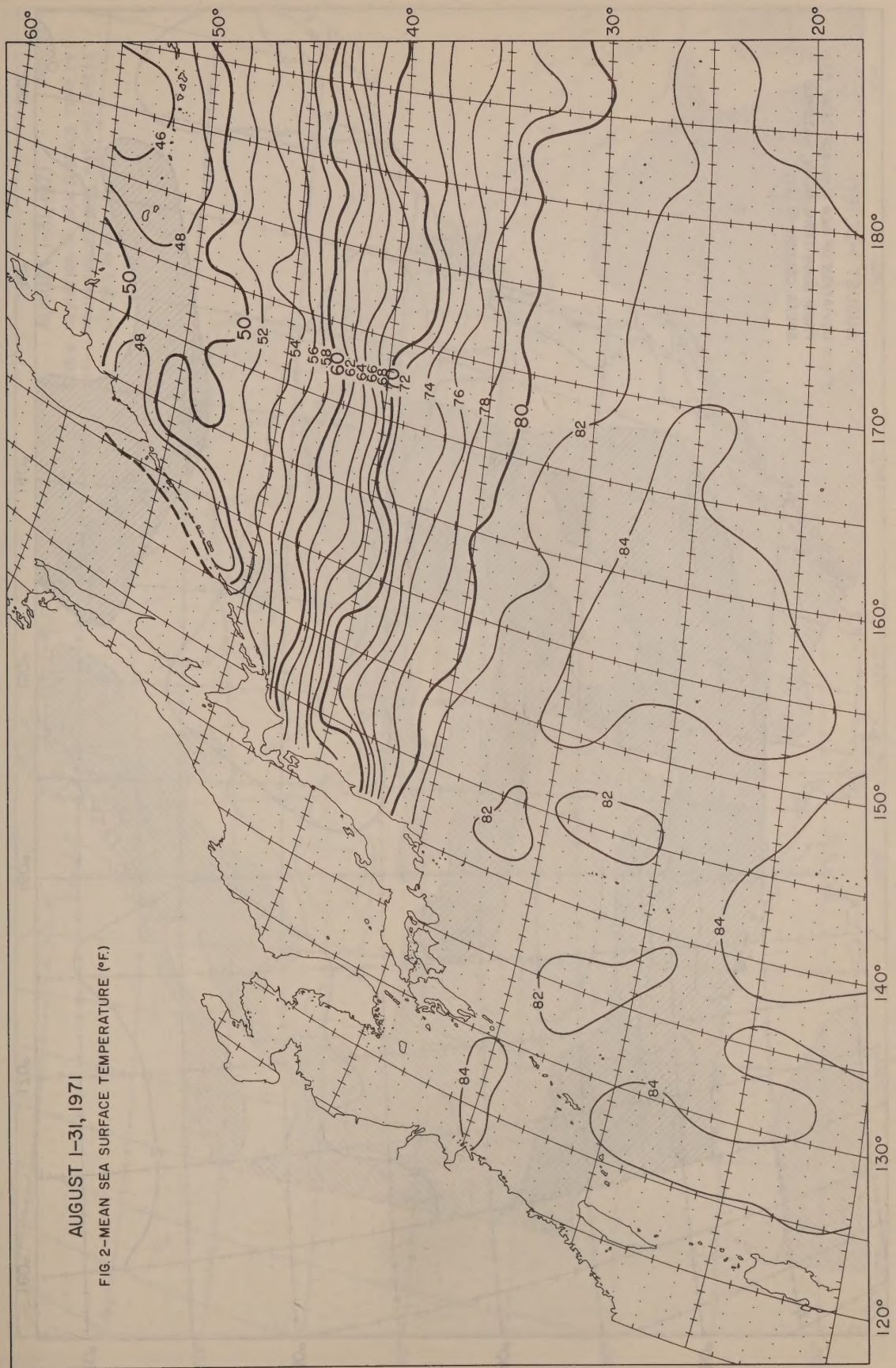
AUGUST 1-31, 1971

FIG. 1-MEAN SEA SURFACE TEMPERATURE (°F.)



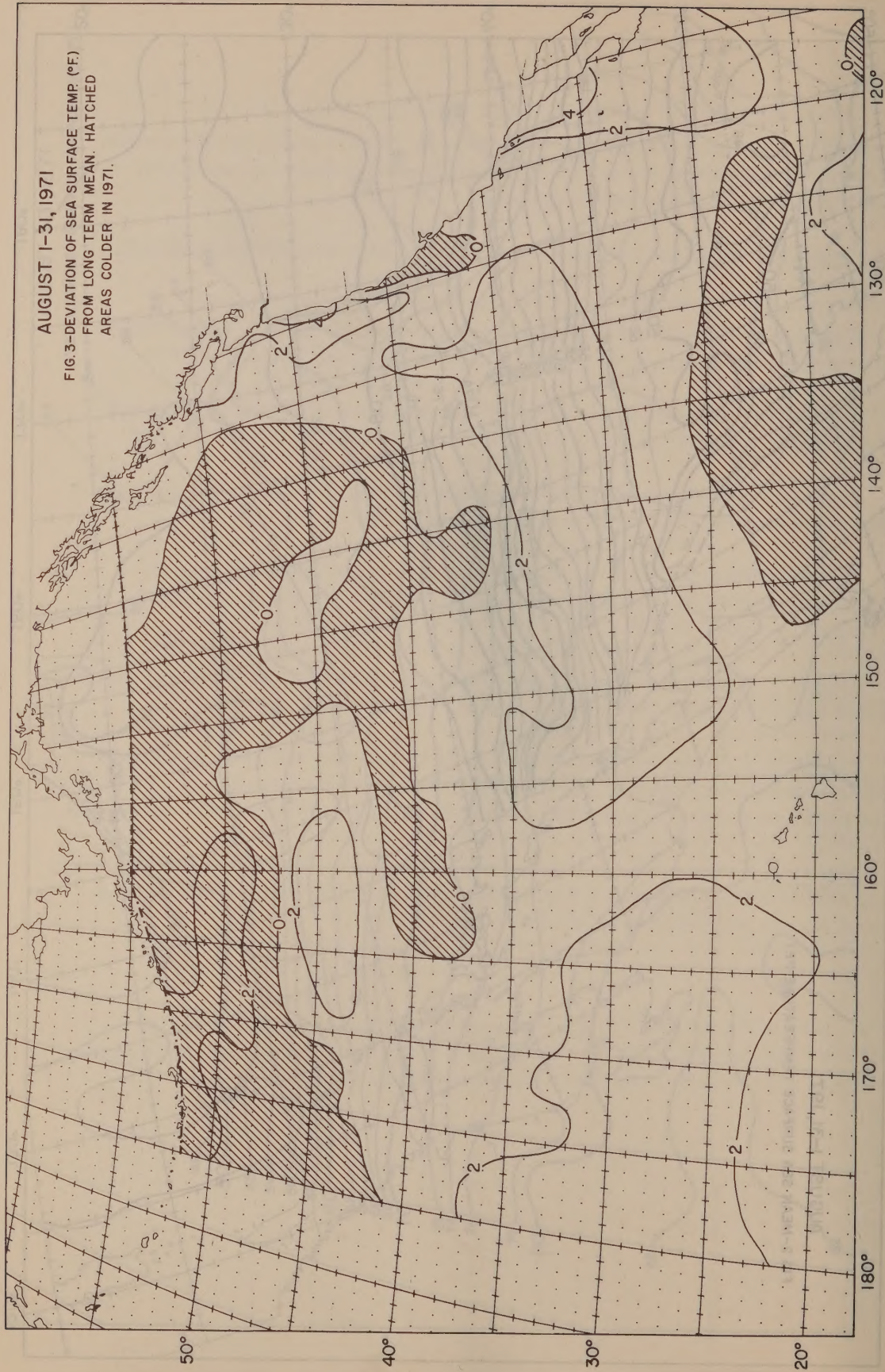
AUGUST 1-31, 1971

FIG. 2-MEAN SEA SURFACE TEMPERATURE (°F.)



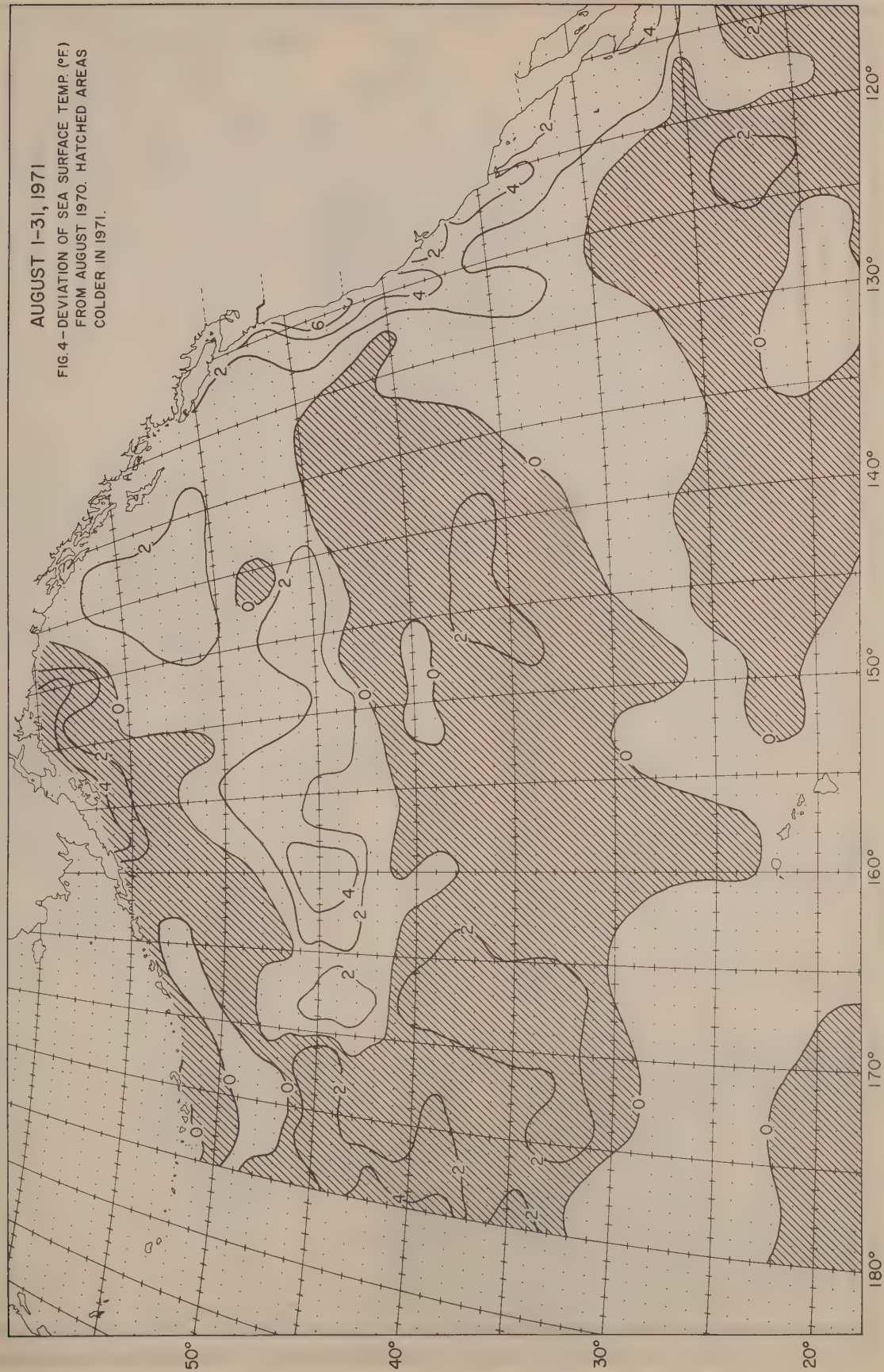
AUGUST 1-31, 1971

FIG. 3-DEVIATION OF SEA SURFACE TEMP (°F)
FROM LONG TERM MEAN. HATCHED
AREAS COLDER IN 1971.

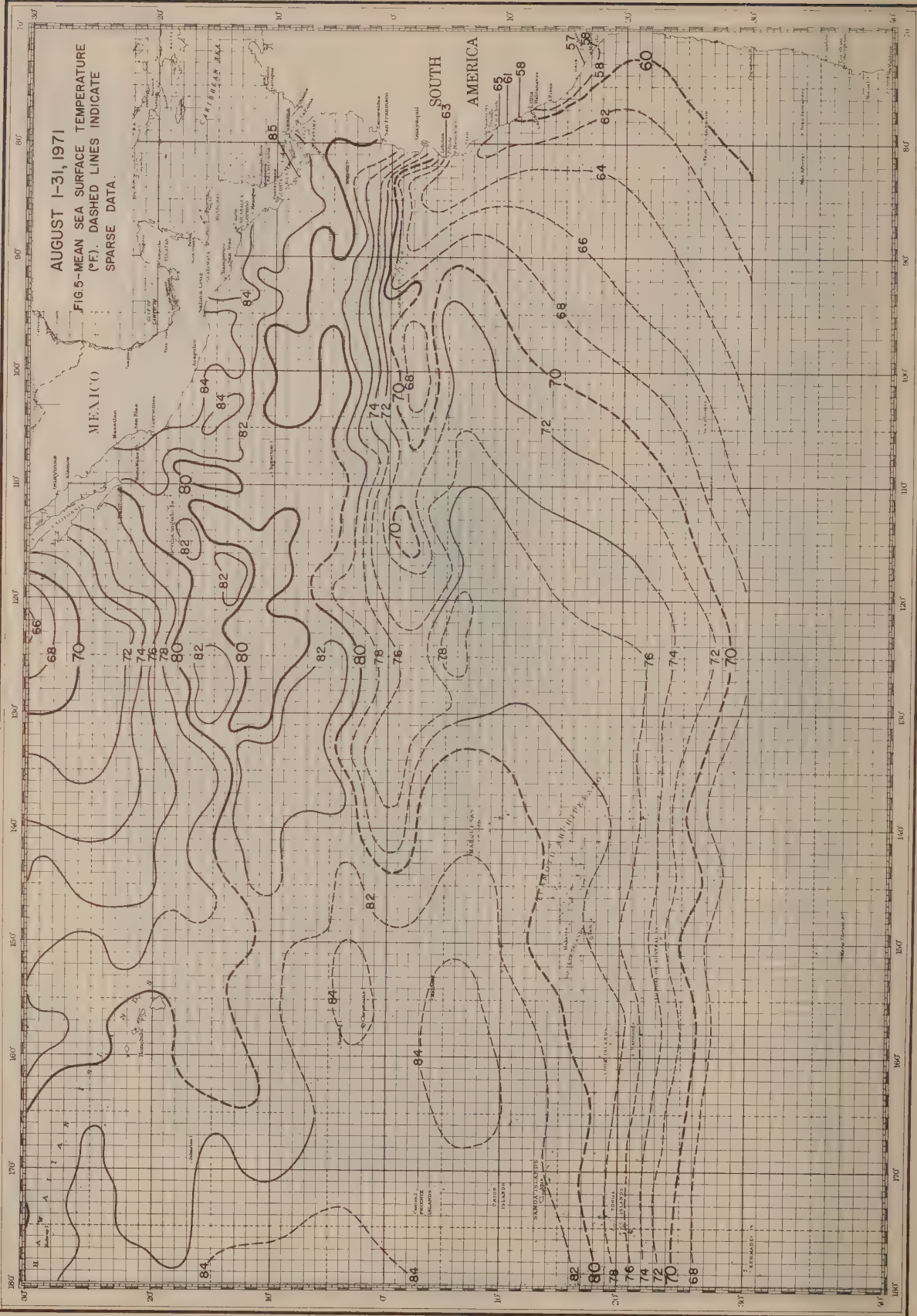


AUGUST 1-31, 1971

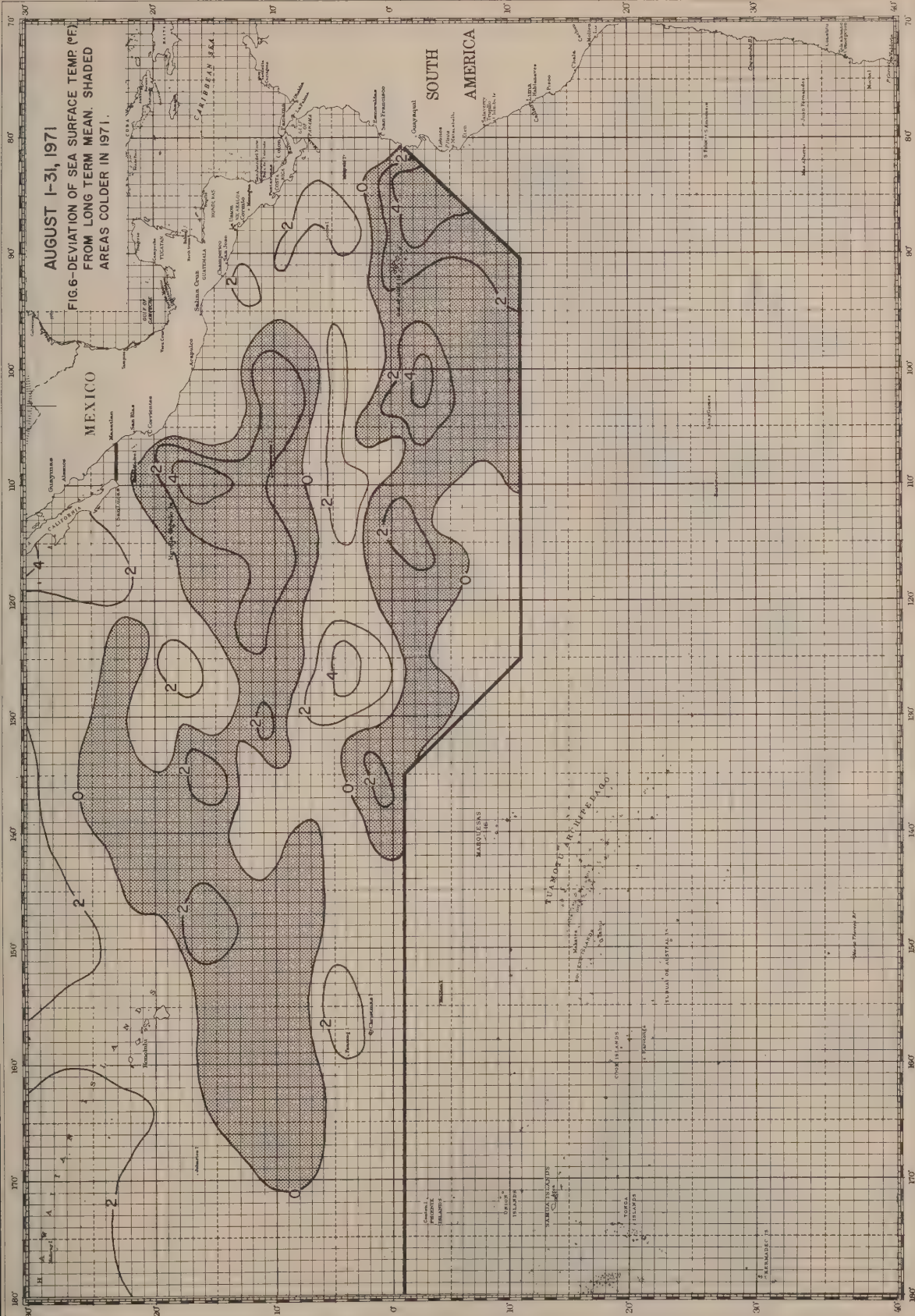
FIG. 4-DEVIATION OF SEA SURFACE TEMP. (°F)
FROM AUGUST 1970. HATCHED AREAS
COLDER IN 1971.



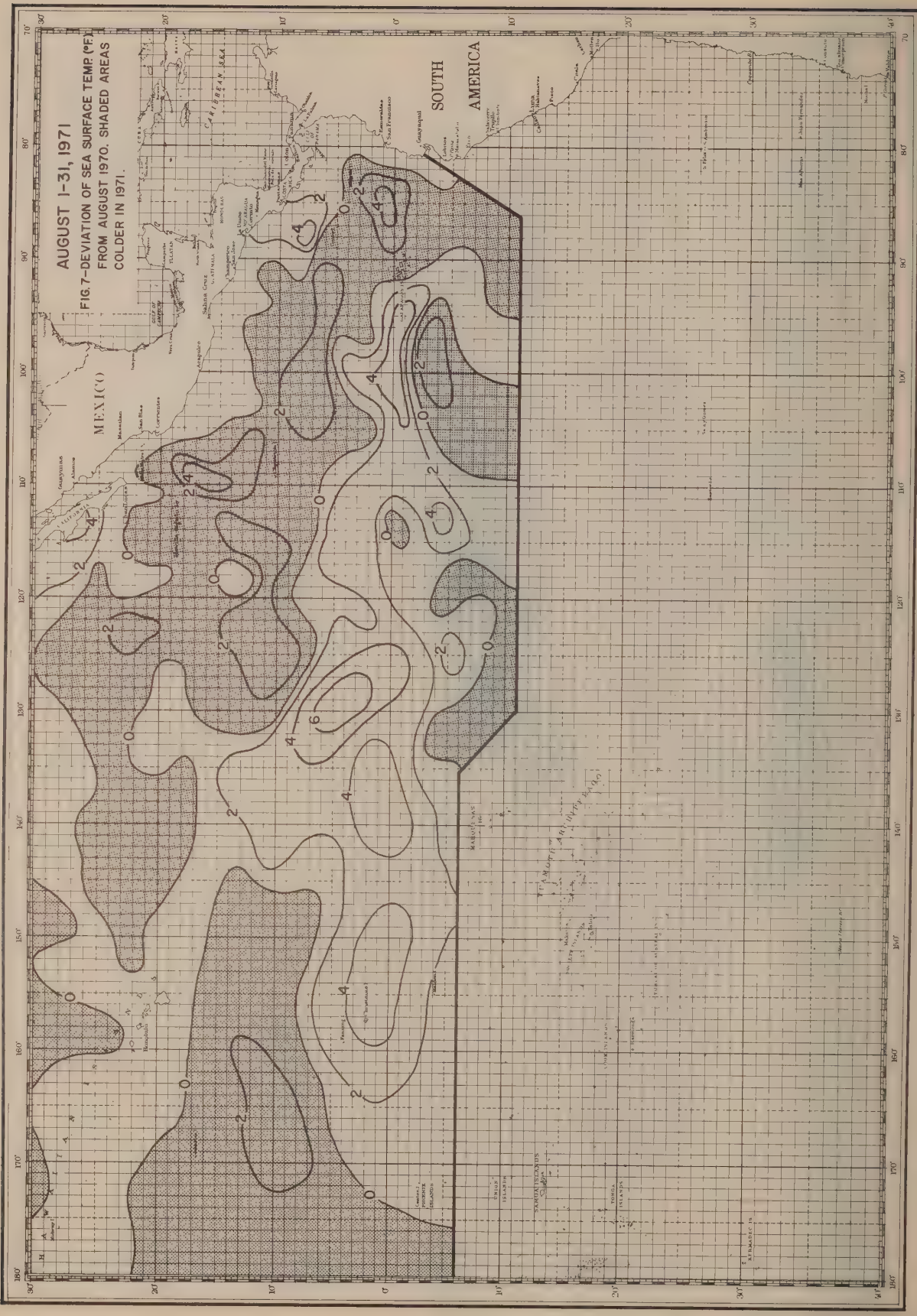
AUGUST 1-31, 1971



AUGUST 1-31, 1971



AUGUST 1-31, 1971
FIG. 7-DEVIATION OF SEA SURFACE TEMP (°F)
FROM AUGUST 1970. SHADED AREAS
COLDER IN 1971.



ANNUAL MEAN

FIG. 8—OBSERVED MEAN VALUES

—0000—BAROMETRIC PRESSURE

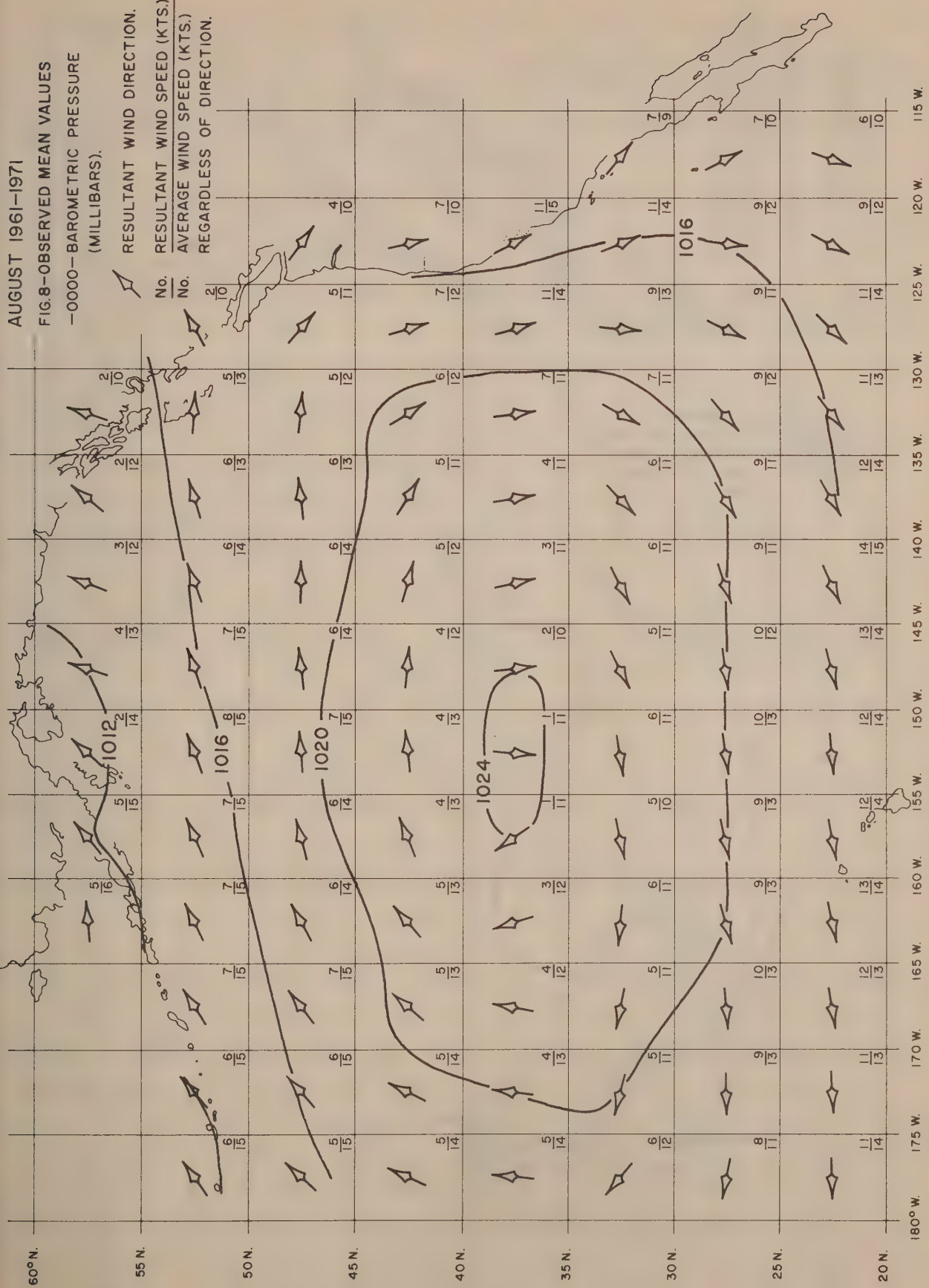
(MILLIBARS).

RESULTANT WIND DIRECTION.

RESULTANT WIND SPEED (KTS.).

AVERAGE WIND SPEED (KTS.)

REGARDLESS OF DIRECTION.



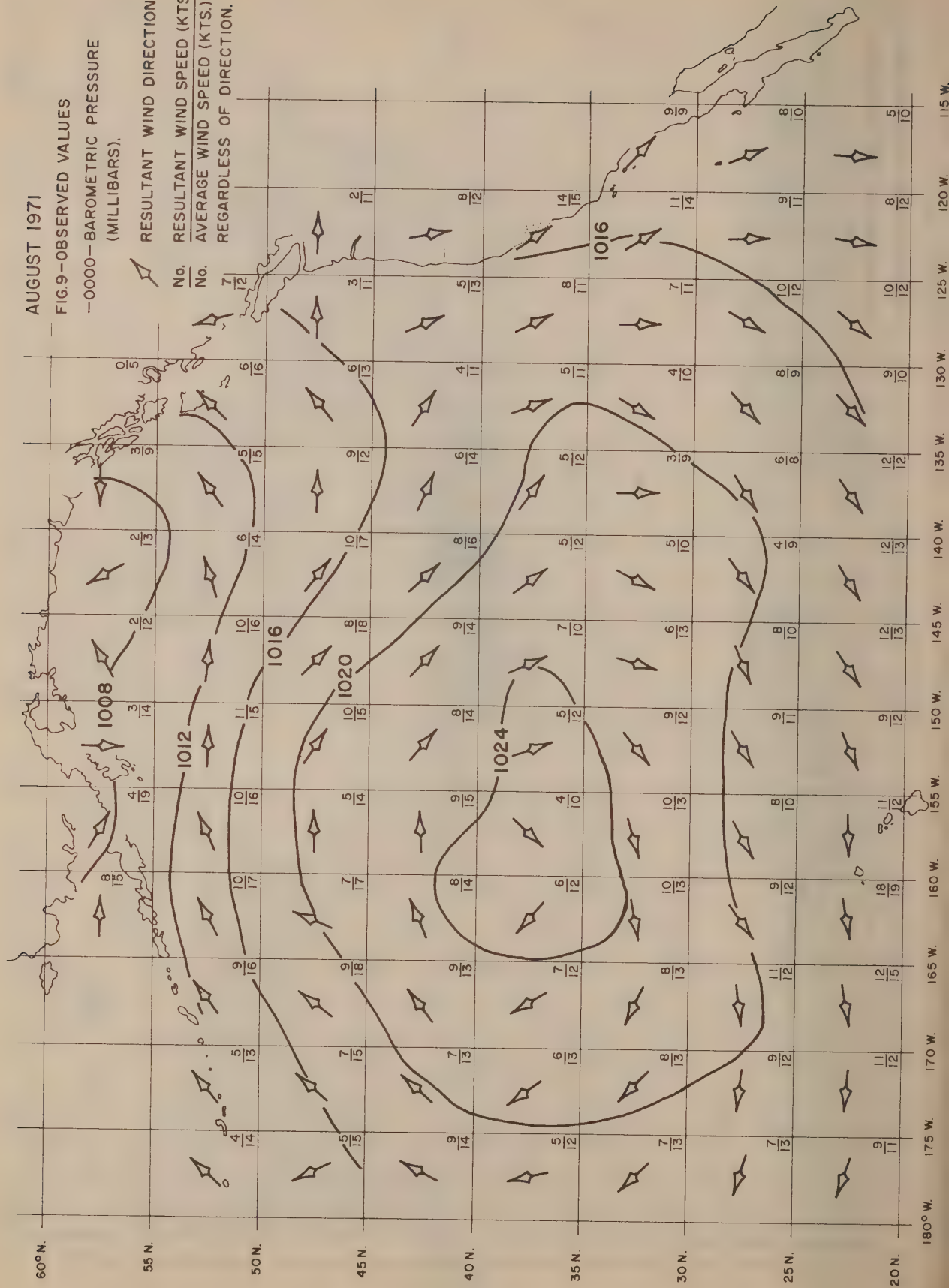
AUGUST 1971

FIG.9-OBSERVED VALUES

-0000-BAROMETRIC PRESSURE
(MILLIBARS).

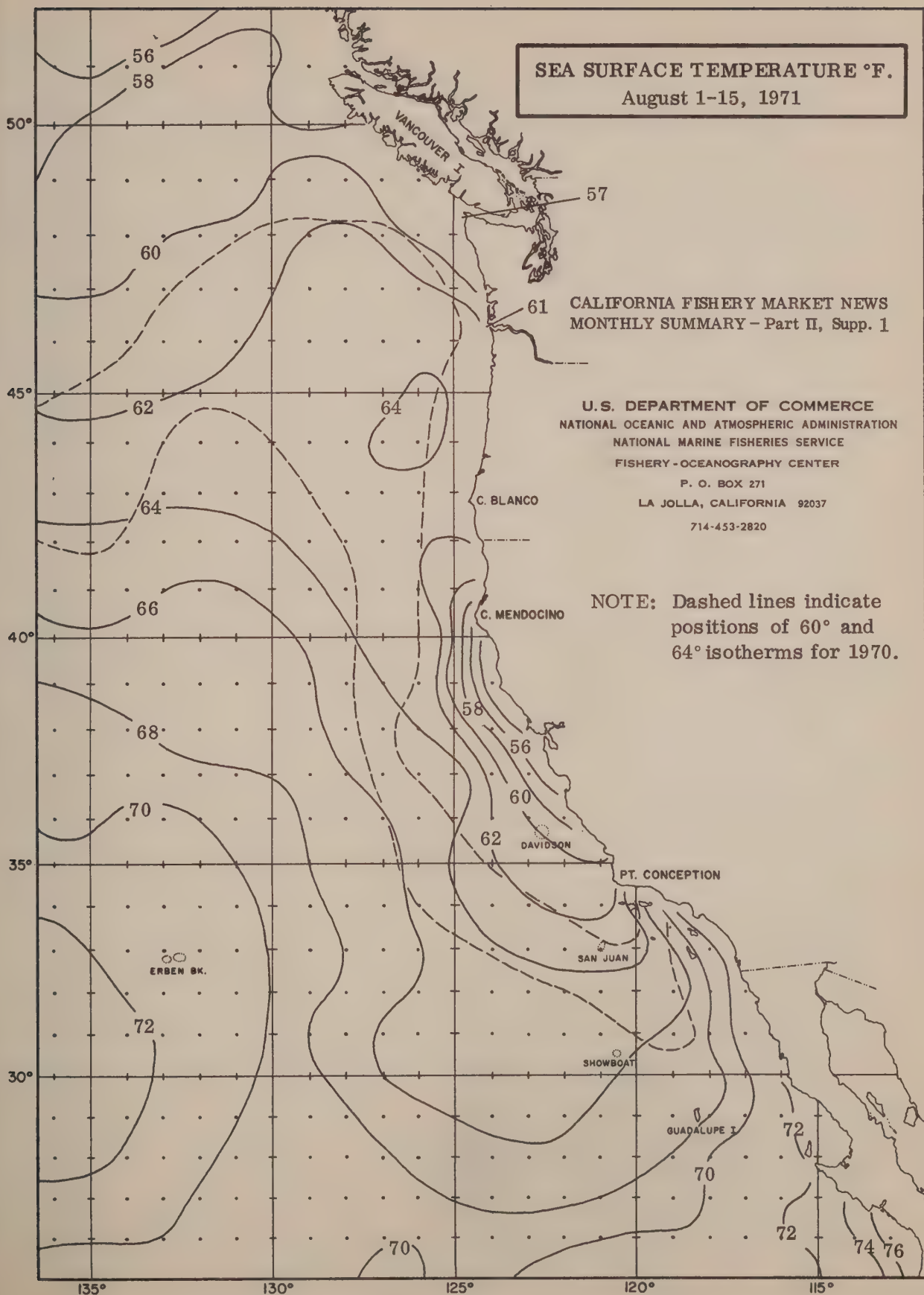
RESULTANT WIND DIRECTION.

RESULTANT WIND SPEED (KTS.).
AVERAGE WIND SPEED (KTS.)
REGARDLESS OF DIRECTION.



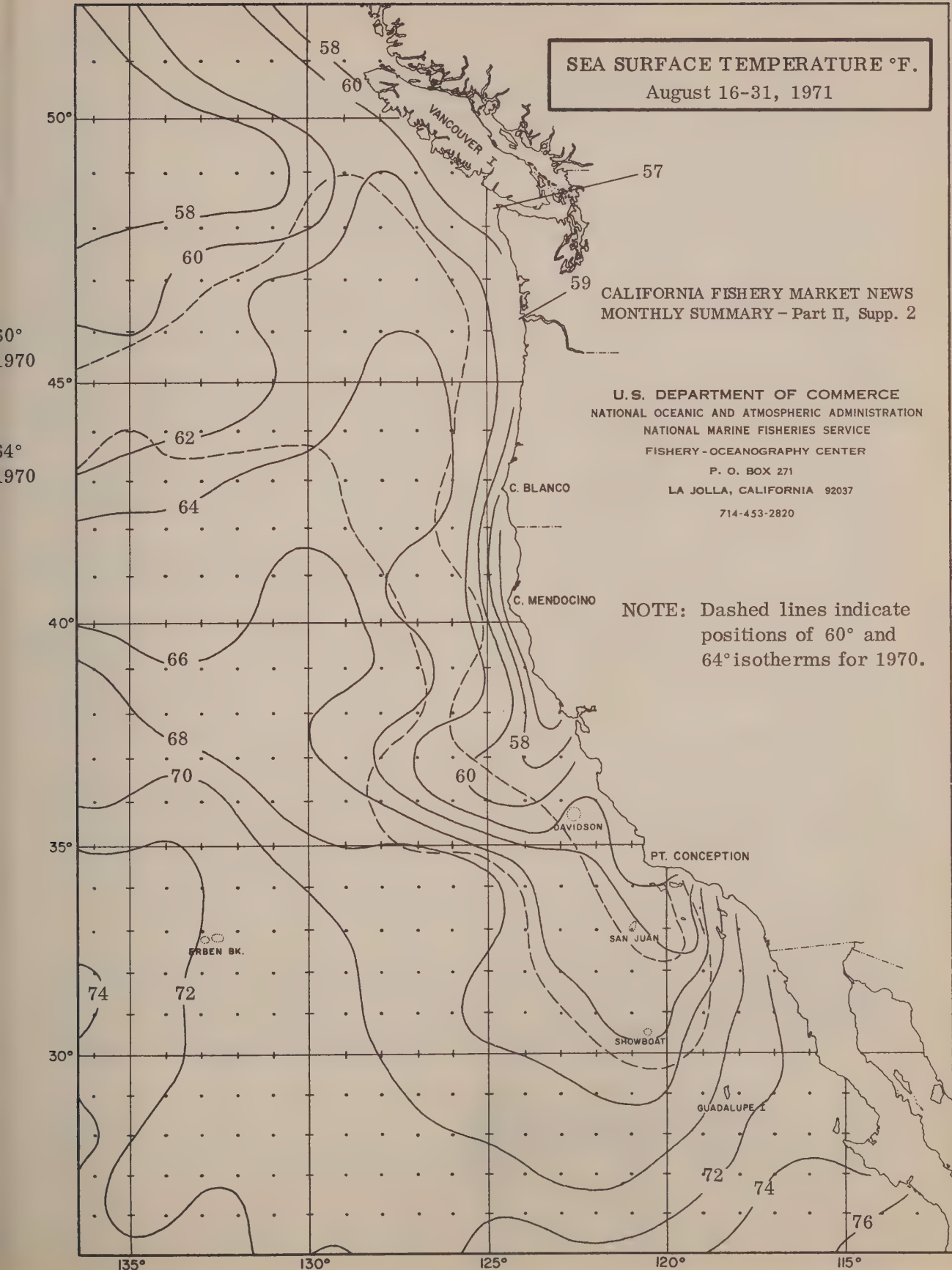
SEA SURFACE TEMPERATURE °F.

August 1-15, 1971



SEA SURFACE TEMPERATURE °F.

August 16-31, 1971



UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL MARINE FISHERIES SERVICE
Fishery-Oceanography Center
La Jolla, California 92037

BULLETIN NO. 71-4

JIG FISHING PICKS UP IN CENTRAL CALIFORNIA WATERS, NEARLY CLOSES IN SOUTHERN AND BAJA CALIFORNIA

The best area for jig-fishing for albacore by mid-August is in a region from Morro Bay to the Farrallon Islands. Fishing in this region continues to be hampered by bad weather. However, many boats have moved to this region, some working as close as 8 miles offshore Pt. Sur in 54° F water. When weather permitted, average scores of 100 to 200 fish have been reported but the albacore have been running small, weighing about 9 to 11 pounds.

Commercial albacore catches south and southwest of San Diego to Geronimo Island, Baja California remained spotty during the first week of August. Bait boats averaged 400 fish per day and on August 5th jig boats reported catches of 200 fish per day averaging 16 to 18 pounds. By the end of the first week with the surface temperatures rising from 66° to 68° F to the mid-70's catches declined to only scattered numbers. Many boats have moved northward.

Reports indicate that albacore are still present in southern regions but running deep. On August 16th one sport boat reported finding albacore in an area south-southwest of San Diego where water temperatures were about 67° F. Scattered albacore may continue to be found where wind stirring reduces the very warm surface temperatures.

Scores of 50 to 200 fish per boat were recorded in 58° to 63° F waters off Eureka and Crescent City during August, but dropped abruptly on the 12th and continue to be poor. With the decrease in catches many boats moved south. The area about 125 miles west of Point Arena produced average catches of 100 fish and a high of 300 on August 10th.

Jig boats had scores of 100 to 150 fish in the Gray's Harbor, La Push, and Cape Flattery, Washington areas for the first few days of August. In the following days catches declined abruptly and have continued low for areas along Oregon and Washington. On August 14th some boats reported getting about 150 albacore off Tillamook Head.

Bait boats have taken scattered catches near Destruction Island, Washington, but, although the albacore are present, few are taking bait readily.

San Diego sport boats continued to get about 1 to 3 fish per passenger from 50 to 75 miles southwest of San Diego.

Prevailing weather conditions, including light winds, high humidity, and decreased cloud cover, during the August 1-15 period have allowed sea surface temperatures to warm at a rate of 2° to 4° F above normal along most of the U.S. west coast and northern Baja California. The only exception has been a region between Cape Mendocino and Point Arguello where strong north-northwesterly winds have caused moderate to strong upwelling and cool temperatures. The above normal rate of heating off southern California and northern Baja California, has pushed sea surface temperatures above those optimal for good commercial albacore fishing.

The average position of the 60° F isotherm for the August 1-15 period lies off the Washington coast along latitudes 47° to 49° N, and sea surface temperatures are above 60° F along the coast from southern Washington to Cape Mendocino.

According to information supplied by the Extended Forecast Division of the National Weather Service, temperatures over the Pacific Southwest are expected to be above normal from mid-August to mid-September, creating a deeper-than-normal thermal low pressure pattern over this region. Sea level pressures off the U.S. west coast are also expected to be below normal during this same period, resulting in weaker pressure gradients and lighter winds than normal. Daily fluctuations in the pressure patterns will cause intermittent spells of moderate to strong winds and rough seas offshore coastal areas but the average of the winds over a month's period should be below normal.

August 16, 1971

Staff, Fishery-Oceanography Group
R. Michael Laurs, Leader

UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL MARINE FISHERIES SERVICE
Fishery-Oceanography Center
La Jolla, California 92037

BULLETIN No. 71-5

ALBACORE FISHING IMPROVES--BEST JIG FISHING OFF CENTRAL CALIFORNIA

For the most part, commercial albacore fishing has been very good during the past 15-days with most consistent fishing recorded off Central California from Point Sur to Guide Seamount. A large fleet of jig boats and some bait boats are fishing in the area 15-135 miles offshore, mainly, west of Point Sur and near the Monterey Seavalleys. Scores were about 40-50 fish a day per boat from August 16-18 in rough seas and increased to 100-200 fish a day per boat to the end of August except for higher averages of 250-300 on August 22-23. High daily counts for jig boats during the entire 2 week period were from 100-1000 with many boats reporting catches over 500 fish. Fish have been averaging 12-14 pounds and at the end of the month were mostly 14 pounds.

Catches from northern California waters have been scattered but good. Daily scores of 100-150 fish per boat were reported on 10-11 pound fish caught in 63-64° waters, for a couple of days in the third week of August. Catches remained spotty until the 27th of August when both bait and jig boats had 100 fish or better 35-40 miles outside Eureka to Crescent City. On the 28th jig boats were getting up to 400 fish 20 miles off Cape Mendocino and near the Gorda Seavalleys. Winds increased during the last few days of August and many boats returned to port.

The Oregon and Washington areas have had only scattered catches. Jig boats caught small numbers of albacore off Coos Bay and Newport during the third week of August, but numbers have decreased. Average daily scores were about 50-60 fish with fish averaging about 20 pounds. Bait boats had some success, but, in general, fishing remained spotty and many of them began moving southward at the end of the month. Oregon State University's R/V CAYUSE fished off central and northern Oregon in 60-66° water during the 4th week of August with little success. The fishery off southern California continues to be slow for both commercial and sport boats.

About 8000 tons of albacore was landed during August of this year bringing the season total to approximately 12,000 tons, which is about 1000 tons more than was landed last year at this time. About two-thirds of the albacore landed thus far this season has been landed in California ports.

Seasonal warming caused sea surface temperatures to reach their maximum values around mid-August in most offshore regions. During the past 2 weeks temperatures have begun to cool slightly north of 38° N, although some warming did occur between Point Sur and Vancouver Island and from the coast out to between 100 and 200 miles offshore. The above normal warming off the Pacific Northwest is due to two periods of fairly strong south-southwesterly winds moving warmer water from the south into this area; the warming that occurred between Point Sur and Cape Blanco is due to less frequent periods of strong north-northwesterly winds and upwelling during the last 2 weeks in August than occurred in the previous 6 weeks.

The average positions of the isotherms during these 2 weeks show that temperatures are still above 60° F along the coast from central Washington south to Cascade Head and southward of the Monterey Bay area. Temperatures off southern California and northern Baja California are still above 68-70° F and are reflected in the poor sport and commercial albacore fishing in these areas.

The Extended Forecast Division of the National Weather Service expects that a high pressure ridge over the Pacific Northwest and eastern Gulf of Alaska will be a predominant feature of average weather conditions for September. While occasional weak weather fronts will move inland over the coastal regions of the Pacific Northwest, the more intense storm systems that develop in the western Gulf of Alaska are expected to head into eastern Alaska, and western Canada. The much above normal temperatures that prevailed over the Pacific Southwest during the past 3 months and set up pressure gradients that caused strong winds and rough seas offshore southern Oregon and California are expected to be closer to normal values during September. Consequently, periods of strong north-northwesterly winds and upwelling should be less frequent and less intense than during July and most of August.

The outlook for the next 15-days calls for continued good fishing off central California in the area from San Francisco to Morro Bay providing weather conditions remain calm. The area from Crescent City to Fort Bragg holds good potential if weather conditions permit fishing. Because of very warm water conditions albacore fishing off southern California for both commercial and sports fishing is expected to remain slow, although isolated pockets of fish may be found. Fishing in the Pacific Northwest off Oregon and Washington is expected to remain scattered.

August 31, 1971

Staff, Fishery-Oceanography Group
R. Michael Laurs, Leader

